eLearning Industry Snapshot 2010

Abstract

This report contains an overview of the Ontario eLearning industry in 2010. The global eLearning industry was worth US $27.1 billion in 2009 and is predicted to grow to $107.3 billion by 2015[1]. The international standing of the eLearning industry is known, yet the size of the industry in Ontario is hard to identify. This report takes the first steps in examining the eLearning industry in Ontario, and in finding ways that it can grow in concert with the strong cultural industry already operating in the province.

The results and conclusions drawn in this report stem from a survey sent out to eLearning firms and companies in the other creative industries, accompanied by interviews conducted over the second half of 2010. The first half of this report examines the survey results, while the second half combines those survey results with further research done through interviews and case studies. Authors of this report have also identified issues and areas of eLearning that require further research, or should be addressed.

Overall, the eLearning industry in Ontario has weathered the recent economic downturn relatively well. Nevertheless, there are fundamental issues that are holding back the expansion of the eLearning industry in Ontario, and that need to be addressed regardless if the overall economy recovers quickly.

Companies developing eLearning are often insulated from other similar companies, and are exploiting a niche market. So far this has been working for Ontario-based eLearning companies with 26% of eLearning projects bringing in over $1 million in 2009. However, more partnerships need to exist in the eLearning sector if the sector is going to grow, let alone be competitive internationally.

There is an impression amongst eLearning companies that there is a need to improve the labour pool in Ontario. Talented workers are older and more expensive and the next generation of workers are not as qualified in some key

[1] "Global eLearning "Market to Reach 107.3 Billion by 2015, According to New Report by Global Industry Analysis." StreetInsider.com. 20 Sep. 2010. Web. 27 Oct. 2010.

areas. A labour shortage of talent seems inevitable to the small and medium sized eLearning companies participating in the study.

Companies have also expressed concern that there is no coordination between levels of governments and educational institutions. From the private sector's perspective there is no "owner" of eLearning in Ontario, and no centralized strategy. This is a concern because it limits their ability to properly serve and cater to both these domestic markets as well as new international markets. A coordinated push by all levels of governments to encourage and support eLearning is needed.

In order to expand, Ontario's eLearning companies need to be more connected to one another, and to Ontario's cultural industries, and better informed about government programs that can help them expand.

Unless stated otherwise, the information in this report comes from original research conducted by Interactive Ontario's eLearning Committee. The survey and interviews were conducted in the summer and fall of 2010 throughout Ontario. Individual survey results are confidential and only aggregate information is displayed.

Defining eLearning

eLearning covers a broad spectrum of electronic-based learning that has become more diversified since the term was first popularly used. Originally eLearning only related to computer software and then evolved to cover distance education; however, today eLearning can encompass multiple forms over multiple mediums. The increased proliferation and accessibility of computers and the internet have greatly impacted what types of eLearning can be produced and where it can be consumed.

The rise of the popularity of eLearning has also seen the diversification of subject matter and delivery methods from computer games and simulations to location-based accessible information to specialized social networks focused on education. Adoption of eLearning continues to grow, and as such a discussion around eLearning can easily be diluted and may lack focus.

Our research identified over 130 eLearning companies in Ontario when the survey was released and since then more eLearning companies have contacted Interactive Ontario. The total number of eLearning companies in the province is still unknown to us, but our projections are that it is upwards of 200. The average number of employees at the independent self-identified eLearning companies surveyed is four, which contains a mixture of technical, administrative, and pedagogical skills. This does not include people working on eLearning projects in other cultural industries or contractors and freelancers hired on to assist in eLearning projects.

There are corporate training departments that were not included in this study; we have since found that many corporate eLearning departments are substantial in size, and in fact are larger than most small independent eLearning firms. Similarly, taking into account the number of employees working directly in eLearning at educational institutions would greatly increase the number of people working in the field. One survey respondent reported 2,000 people working on pedagogical eLearning projects at Ontario universities alone.

Understandably, defining eLearning has become more difficult because of the much broader scope that the field now covers. To overcome this challenge this research project looks at eLearning in the method outlined below.

eLearning in the broad definition of the term, can be boiled down into three main categories:

Academic	Non-curriculum Learning	Corporate Training
Curriculum-based projects that support teachers in and out of the classroom (K-12, College and University). They are projects that students experience on multiple platforms, relevant to the material and context of the class. The type of projects they cover, may include content-driven supplemental videos, multimedia learning games and platforms such as Learning Management Systems. Examples: Moodle (Open Source), History of Biology (Spongelab)	Digital offerings that are generically considered educational or instructional but are not part of any formal school, corporate, or institutional curriculum. They may disseminate educational concepts, or teach a specific skill or technique, either technical or personal. They may include serious games, kids “edutainment,” casual learning modules, museum installations, and interactive documentary-style content. Examples: Digital Frog (Digital Frog), NovICE: A Beginners Guide to Hockey (The Learning Edge)	Supplemental or stand-alone content to foster training or professional development for employees in a business or institution. This area includes the standardized practices of industrial simulations, online professional development and certification courses, online training videos, just-in-time training, and interactive development games to teach "soft skills" such as negotiation and sales. Examples: Professional and Ethics Simulation (Zap Dramatic), Custom-built corporate workplace/ task simulations (Various)

There are a number of different types of organizations that create eLearning projects that can fit the classifications above:

eLearning Companies – Companies that specialize in the creation or production of eLearning products. This includes companies that work in any of the three categories above, be it service work or the creation of their own intellectual property as long as their primary output is eLearning material.

Interactive Digital Media Companies – Companies that have created a few successful eLearning projects, but predominantly specialize in building general interactive digital media or games projects. Interactive Digital Media Companies work in the digital space; eLearning is not their primary focus.

Corporate Training Departments – Groups within large corporations, often related to Human Resources, who develop or contract in-house modules to train staff.

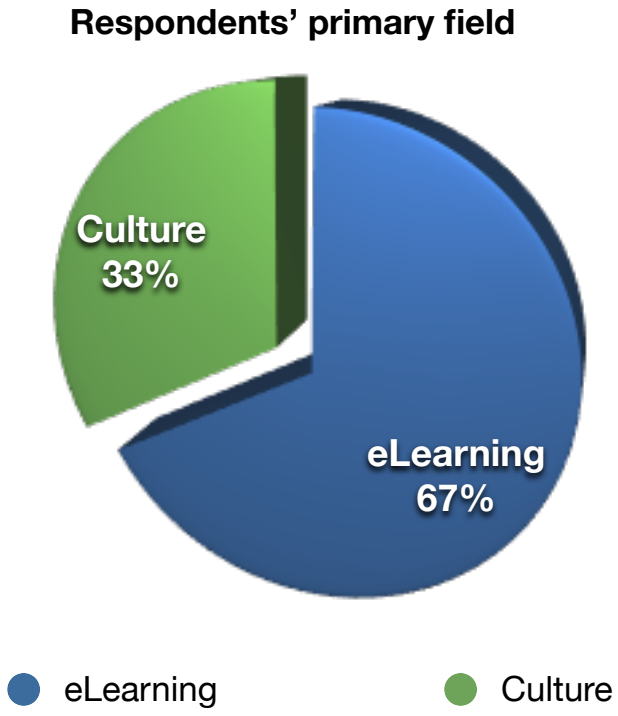
Media Companies – Companies producing media (books, magazines, music, television, etc.) that also sometimes develop related products that may be considered eLearning, most notably television producers with content that targets children.

As the field of eLearning grows, the definition of what constitutes eLearning will inevitably change. This research has set out to take a snapshot of the Ontario eLearning industry in 2010, and subsequently the above definitions are within that context.

Research scope and goals of report

In March 2010, Interactive Ontario's eLearning committee, ONeLearning, set out to pursue research in the field of eLearning. The ultimate goal for the study was to survey and gain a better understanding of the eLearning sector in Ontario, while also highlighting innovative case studies. A focus was put on examining opportunities to involve the cultural sector and experts in developing media-based content with existing eLearning companies; this focus can be seen in the distribution of respondents by industry in Figure 1.

Figure 1



The research project is designed to take a snapshot of the industry to capture overarching trends and top-level concerns that eLearning companies have. A core objective of the study was to determine estimates of total revenue, operating expense, output volume, and future market opportunities. A secondary objective of the researchers was to find areas of eLearning that ought to be examined in more detail than this research project can accomplish.

At ONeLearning, we conducted an initial assessment of the characteristics of the industry by examining the companies producing eLearning projects. This assessment was based on an online survey distributed to participating eLearning and media companies in Ontario. The goal was to gain a basic understanding of the economic foundation for the market analysis and comparison, which was assessed in a quantitative analysis.

We were also interested in gaining a deeper sense of business models in the industry as well as the international landscape for both innovative models and export opportunities. We tackled this portion of the study by conducting in-depth interviews and case studies with select organizations for a more qualitative approach. We see having the input of smaller firms as an advantage because it allows us to get responses and insights from people who would have an understanding of the everyday problems that eLearning firms run into while still having valuable insight into the trends of the industry. It is our thinking that entrepreneurs are good at identifying larger industry trends and how they impact their business.

As well as constructing a financial, corporate, and employment profile, the scope of the survey encompassed access to financing, new-hire employee preparedness, and barriers to market growth. Another portion of the research looked at the global environment, identifying innovative projects and successful collaborations between book publishers, television producers, game producers, filmmakers, and eLearning producers through case studies.

ONeLearning hopes that in addition to providing a valuable overview of the general state of the eLearning industry in Ontario, this research hopefully sets the stage for future work and ongoing research into the eLearning industry.

Approach & Research Methodology

This section outlines the approach and methodology Interactive Ontario used to collect information on the eLearning industry in Ontario.

eLearning industry profile

Interactive Ontario developed a provincial economic profile of the eLearning industry by working with stakeholders and incorporating secondary research to design, implement and analyze an online survey.

After reaching out to culture and eLearning companies in the summer of 2010 we were able to survey a total of 93 companies in Ontario with 31 companies completing the full survey. Partially completed survey results were still useful for analysis and the order of questions were structured to prioritize the most pertinent information of our research. The scope of information collected from the survey included, but was not limited to, the following:

Corporate Profile Questions – e.g. years of operation and types of business ownership

Financial Profile Questions – e.g. revenue by market segment and operating expense breakdowns

Access to Financing Questions – e.g. sources of original capitalization and ongoing financing

Employment & Training Questions – e.g. number of full-time, part-time and freelance employees; availability of required skills; and perceived quality (preparedness) of new hires

Market Growth Outlook Questions – e.g. areas of opportunity and barriers to growth

Industry – e.g. innovative case studies worth further examination and insights into other problems facing eLearning in Ontario

Please refer to the Appendix for a copy of the survey questionnaire that was put online.

For a breakdown of how companies defined their primary field as they see it as eLearning or as other cultural producers please see Figure 2 and Figure 3.

Figure 2

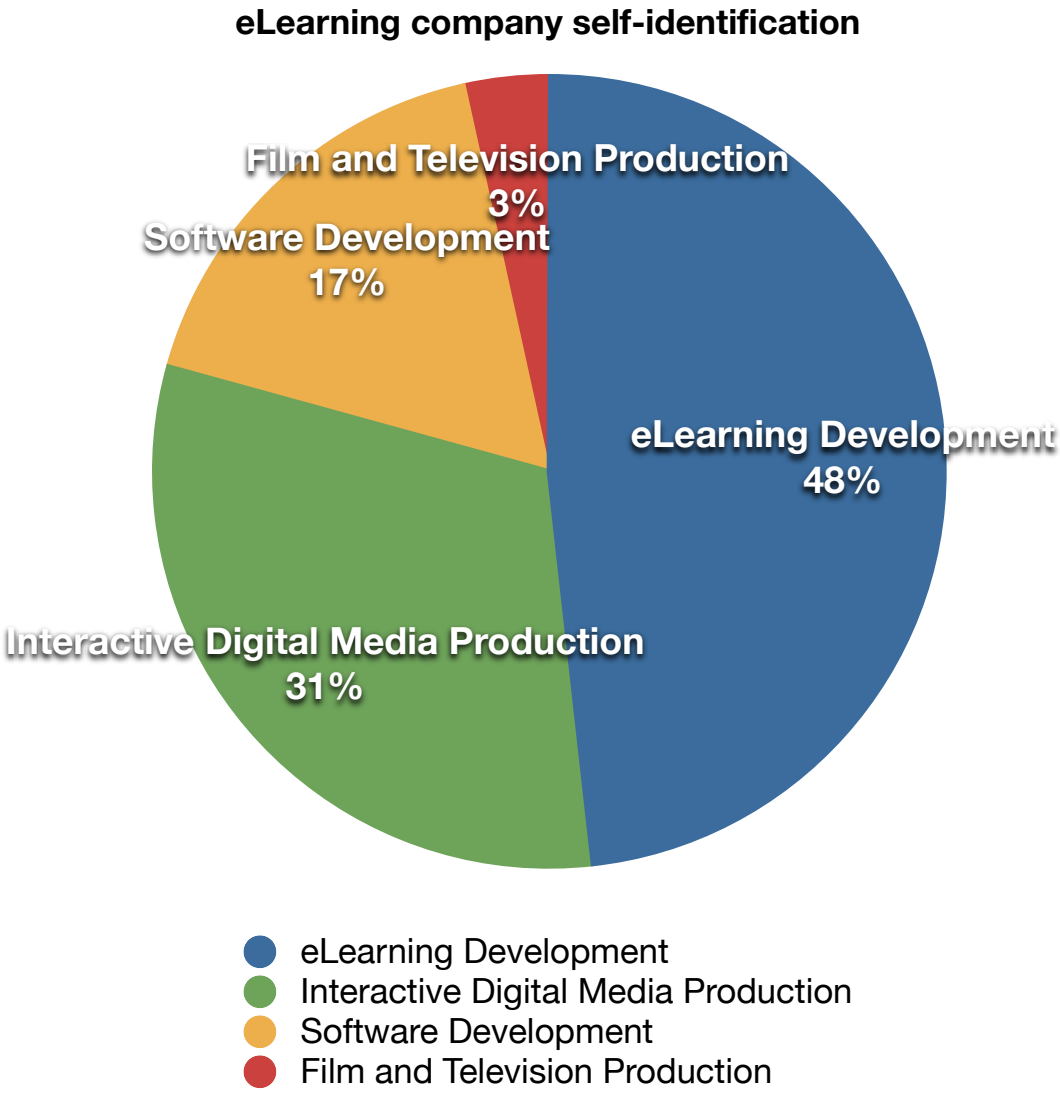
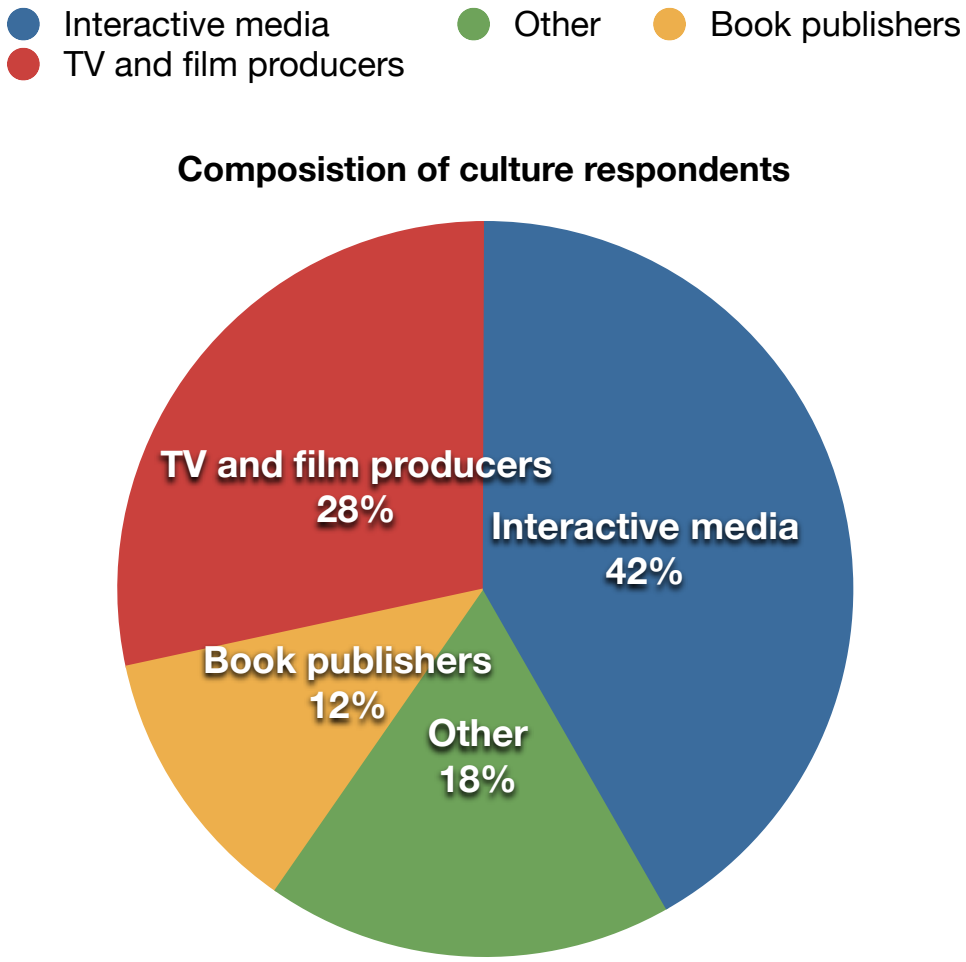


Figure 3


Interactive media
Other
Book publishers
TV and film producers
Composistion of culture respondents
TV and film producers
28%
Interactive media
42%
Book publishers
12%
Other
18%

Why eLearning is succeeding in Ontario

eLearning in Ontario is succeeding due to a myriad of factors that all contribute to an industry that is still coalescing. The digital literacy of Canadians, the vibrancy of the interactive digital media sector, and the diversity of eLearning products all feed into the success of the industry. To this extent we have identified healthy competition in Ontario, with at least 120 eLearning companies that operate in the province alone, proving that there is a keen interest in eLearning production. These companies, however, are only one facet of the overall Ontario eLearning profile, which also includes activities at dozens of colleges and universities, government educational programs, and thousands of corporate practitioners.

eLearning meets the demand for the way the 21st century student wants to learn. The next generation of students and workers have been raised on the internet, mobile devices, social networks, and games; they expect that their learning experiences will be just as engaging.

Talented labour force

Ontario eLearning companies have found mixed results in the current labour market. Survey respondents reported that senior level labour has been relatively easy to find and hire. They also noted that they are readily able to find competent technical employees, likely thanks to the large number of colleges and universities that have technical training courses.

The Ontario government has taken action to attract and retain talent and companies that produce quality video games. The province already had a growing sector of independent game developers and Ontario's recent policies should increase the success of these businesses[2]. The strong and growing gaming sector in Ontario attracts talent that can potentially also be used in the eLearning sector.

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[2] Ontario 2012: Stimulating Growth in Ontario's Digital Game Industry. *SECOR Consulting*. August 2008.

Strong products

The product offerings in Ontario are strong, and the interest in creating better content is even stronger. We have found that Ontario content is considered to be good by non-eLearning companies with 80% of cultural media companies reporting that Ontario-produced eLearning content is excellent compared to other provinces.

Ontario has a strong reputation within Canada, but whether or not this is true outside of the country is unknown. What we have found through interviews with eLearning companies is that an international reputation is now a far greater concern to their ongoing success, and is considered more important than their domestic reputation. Many executives have noted that other countries are taking the lead in building strong and trusted content, while feeling that Canada has not done enough for international promotion.

Within Ontario, eLearning companies have carved out their own individual niches within the educational and training markets. Companies generally sell to one type of industry, with the occasional project in another sector. For example one company may produce eLearning products for police forces and create only one project that is not related to law enforcement. Most eLearning companies focus on a specialization in one of the three main categories of eLearning (academic, non-curriculum, and corporate training).

eLearning companies have an ongoing interest in producing better content and improving their existing content to create a more interactive and engaging experience. We have found that there is a definite and clear interest in producing better and more engaging educational content from the eLearning sector. With this in mind, eLearning companies have expressed interest in partnering with, or otherwise tapping into, the entertainment expertise found within other cultural media industries in Ontario. Our research has found that cultural producers are also open to partnering on projects with eLearning companies.

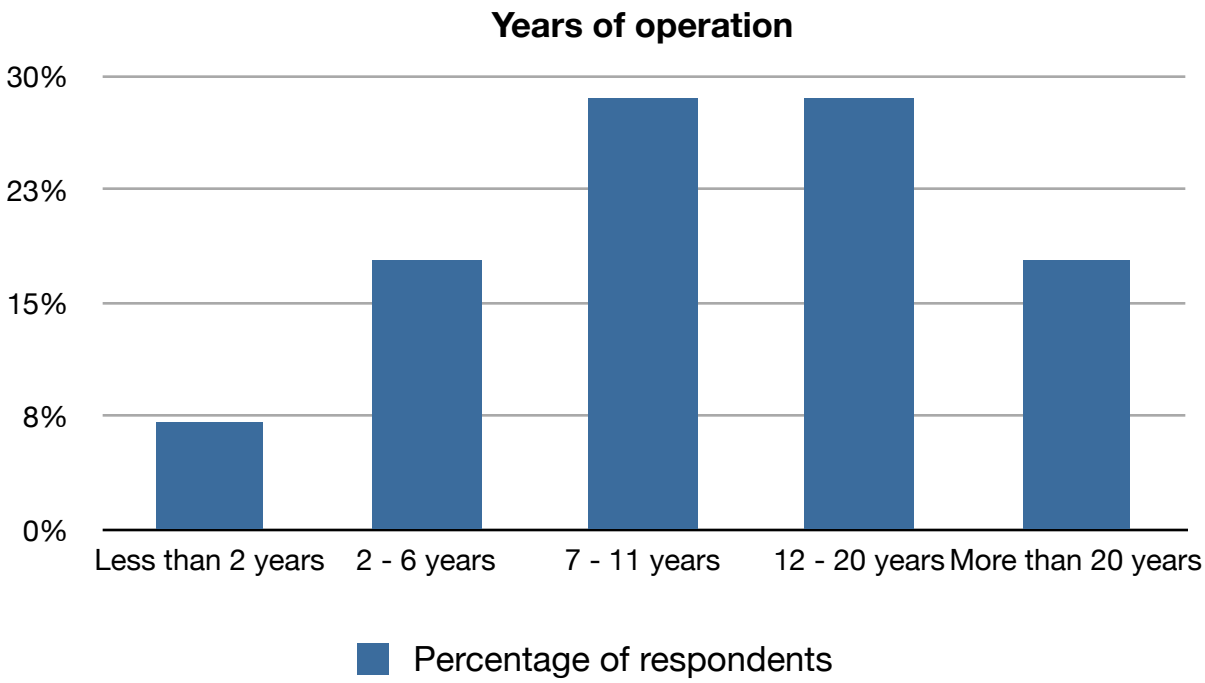
Our research has found that larger companies with a geographically diverse employment base have made good use of the strong eLearning product offerings in Ontario, and will continue to do so unless international competition increases.

For examples of these strong product offerings please see the Case Studies component of our research.

The current state of the eLearning sector

Survey respondents were comprised primarily of small and independent firms. Half of the companies reported that they had a total revenue of less than $1 million in the 2009 calendar year. However, respondents are not young companies, most of the respondents have been operating for more than seven years (Figure 4).

Figure 4

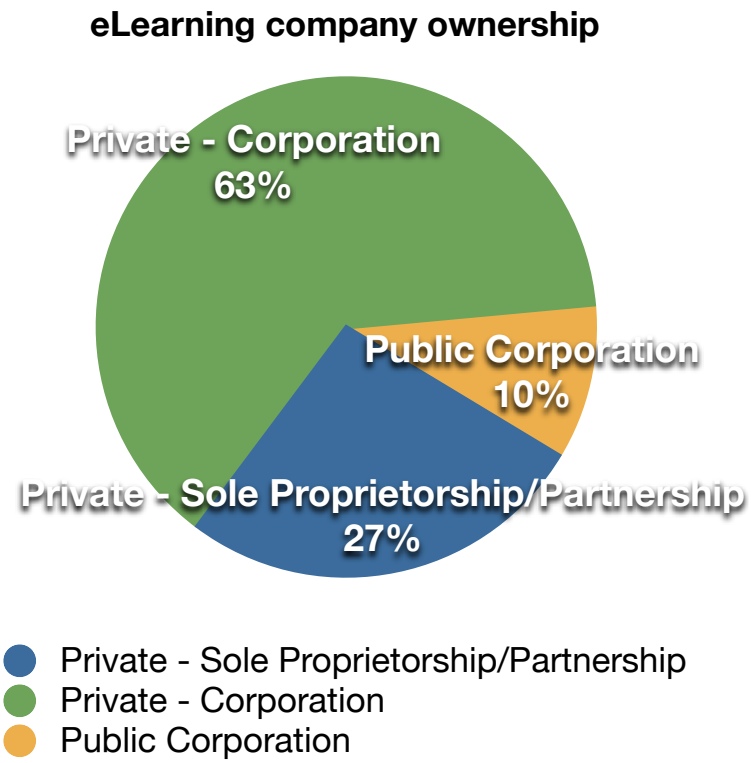


Most eLearning companies that responded to our survey were private corporations (Figure 5). Sole proprietorships and partnerships make up about 27% of respondents. All of these companies combined provides us with a good sampling of the type of work that eLearning companies are producing (Figure 6).

Our research of the eLearning industry in Ontario has found that, in addition to established public-facing eLearning companies, there is a ‘hidden’ industry of

eLearning within larger corporations, with an estimated 8000+ corporate practitioners. The concerns of eLearning companies, and those of corporate eLearning departments, appear to be similar on the surface; they both care about delivery and quality content produced inexpensively.

Figure 5

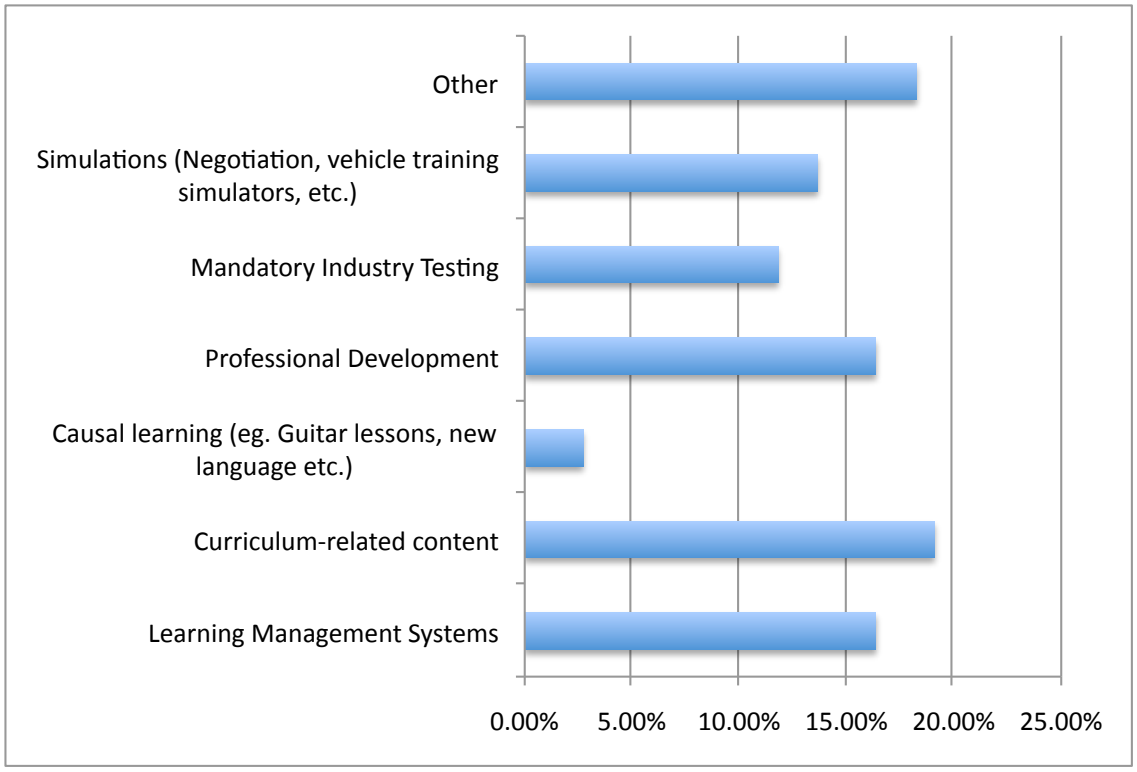


An unexpected and noteworthy finding from the survey is that many eLearning companies are unaware of or do not utilize government tax credits. So, while the Ontario government's Interactive Digital Media Tax Credit and other incentive programs could apply to and benefit eLearning companies, we were not able to determine why eLearning companies are not making use of these programs.

- 79% of companies reported revenue of less than $1 million in 2008 from working on eLearning projects
- 62% of work by eLearning companies is spent on service work

Figure 6

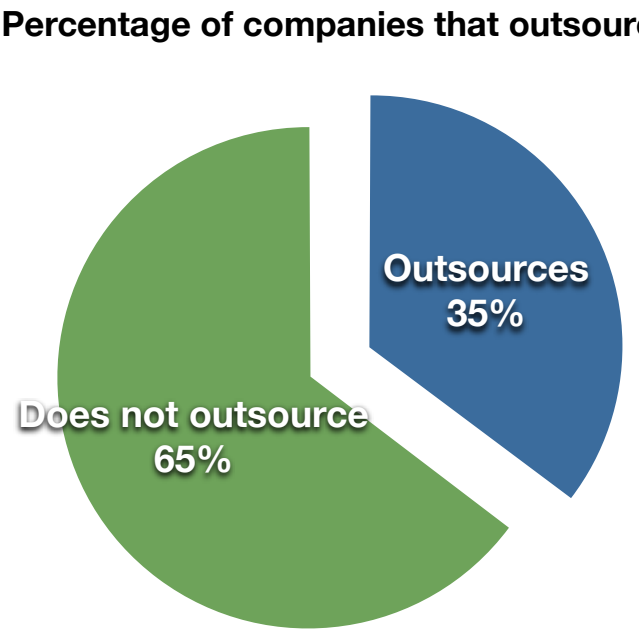
Types of eLearning projects eLearning companies work on:



Labour

Similar to other knowledge-based industries, eLearning companies have indicated that it has become harder to hire younger workers with the needed skills, be they technical or pedagogical. Such labour issues currently seem to exist only within smaller eLearning companies. Of all the survey respondents, only 35% of companies outsource for talent (Figure 7). Unsurprisingly, we have found that larger companies can afford to retain the talent that they need for their eLearning initiatives.

Figure 7



Finding newly-trained employees with the desired skills is a challenge for the eLearning industry. For smaller eLearning firms, experienced employees (both pedagogical and technical) are easier to find but expensive to continually employ. As entry-level employees gain experience and amass skills, smaller eLearning companies have difficulty retaining them due to the increasing salary costs.

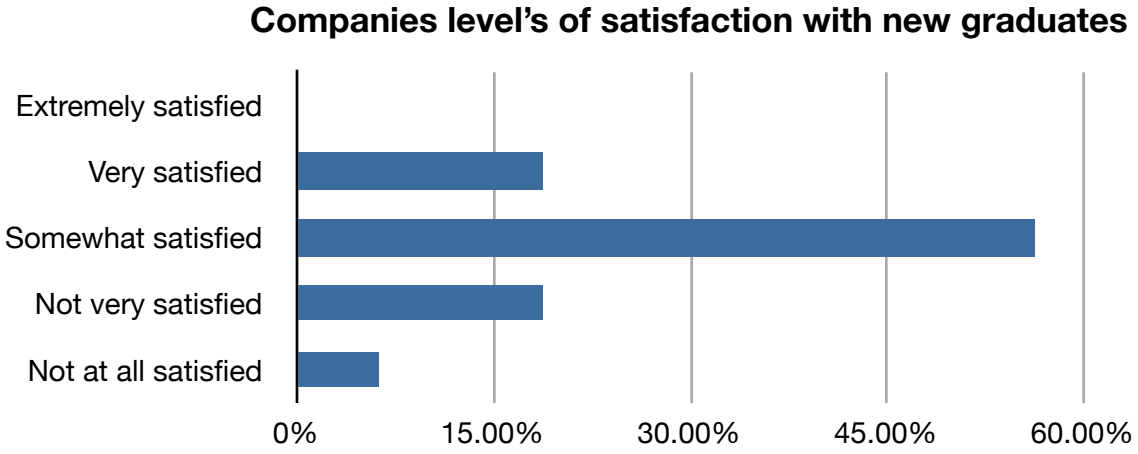
Indications from the survey are that the production of quality content may be affected by the inability to hire and retain people with the needed skills.

Ontario's colleges and universities, however, do not treat eLearning as an identified academic sub-discipline, as they do interactive digital media or gaming. There are few institutions that offer any diplomas or certification for eLearning specialists.

Survey respondents felt current college and university programs are not providing the desired talent needed for the eLearning industry (Figure 8). Although colleges are training people with a variety of needed technical skills,

and universities are training a surplus of people with pedagogical expertise, employers still report being hard pressed to acquire the appropriate talent. There appears to be a lack of formalized training for eLearning practitioners despite the demand.

Figure 8



There is a surplus of people qualified as teachers in Ontario, yet they are not working in the eLearning industry despite the evident demand for people with their talent[3]. This could be attributed to an inherent unfamiliarity with the interactive industry, or may simply be because these qualified professionals want to work directly in the school system. Still, an overarching question that needs to be examined further is why eLearning firms feel that B.Ed holders in Ontario are so hard to find.

Collaborative Opportunities

Our survey has found that eLearning companies are open to working with cultural media companies (Figure 9) and vice versa. However, there are few such partnerships that actually occur in Ontario within the eLearning field that we have been able to identify. Our research indicates that many opportunities exist for partnerships that would help both parties, and respondents are aware

[3] Papadopoulos, Liz. Breaking down barriers for teachers. *Professional Speaking*. March 2010. 1 November 2010.

that the potential for success is there. Respondents are clearly enthusiastic about partnering with media companies to improve their products.

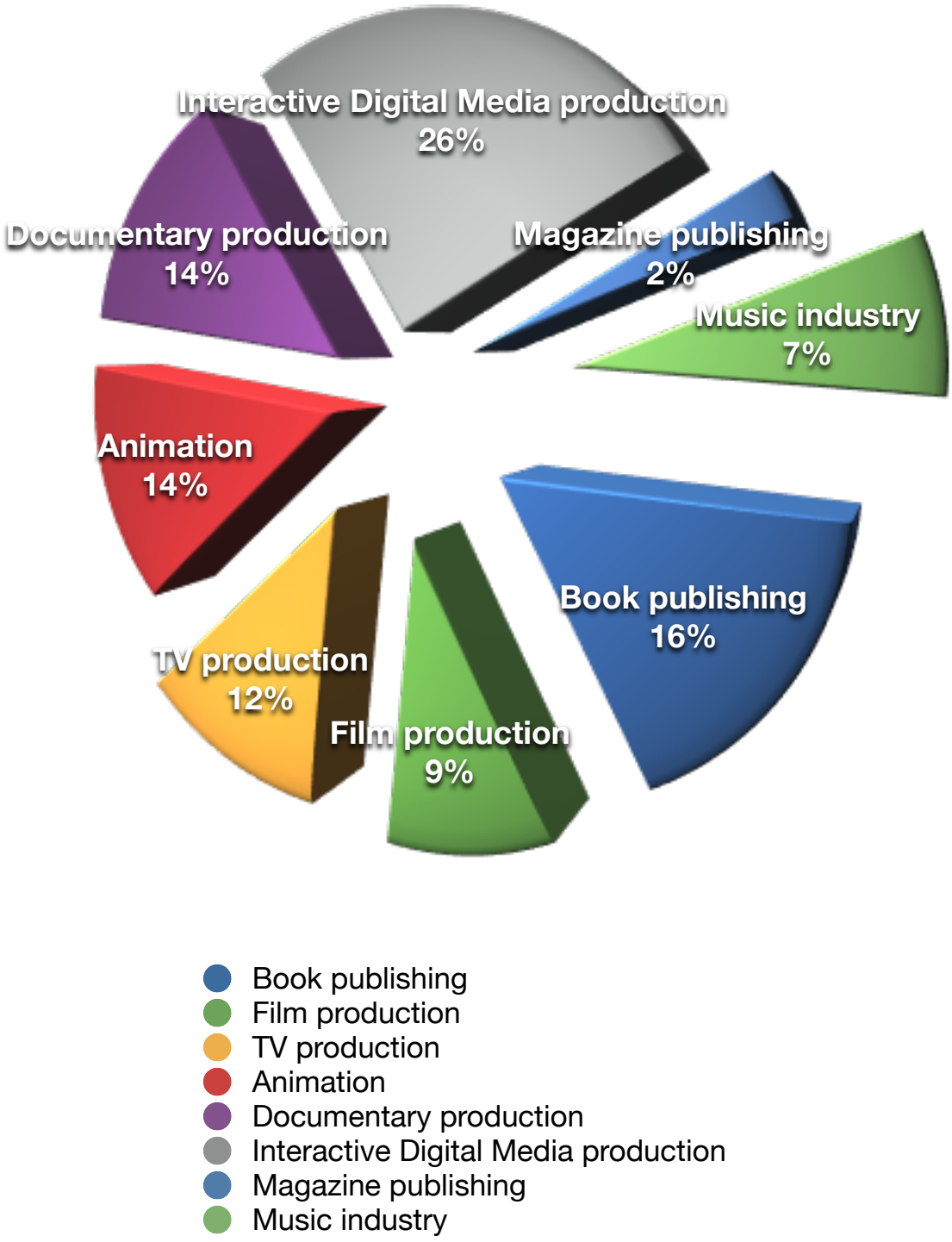
Another probable reason that there are not many partnerships is the lack of formal networking opportunities and conferences. Some eLearning-related conferences do occur in the province, but they are generally focused on either the technical aspects or the teaching aspects of eLearning. Interactive Digital Media conferences and distance education conferences do cover aspects of eLearning but generally do not focus on the other elements of eLearning. There is not a specific conference or networking event in Ontario that aims to bring together the cultural producers, media companies, eLearning companies, and people engaged directly in education – be it public or private education.

Furthermore, the aggregate survey results show an industry in which firms are insulated and busy exploiting their niches. Smaller eLearning companies seem to have found ways to exploit their knowledge base in a key field yet have trouble working outside of it.

Through interviews we have found that few companies have access to academic research or market intelligence that could expand their horizons of engagement into new or growing markets. This is not a concern for every eLearning company but could prove helpful to some companies.

Figure 9

Cultural media sectors that eLearning companies are interested in:



Policymakers

Public Policymakers

There is no clear message being sent to the eLearning industry from the public or private sectors. During interviews, eLearning practitioners in companies of all sizes expressed frustration over the lack of a coherent message from the federal government concerning the strategic importance of eLearning. Companies perceived that eLearning tends to be treated as interactive digital media and in other ways as only distance education. Additionally, there is concern over the absence of any formal government policies or support programs for fostering an Ontario eLearning industry.

Support for distance education has existed for a long time and government has been successful at establishing this aspect of eLearning[4]. Almost every university and college now offers some form of distance learning that can be taken via the internet, and there are ongoing efforts to consolidate these resources, including the recent formation of an Ontario Online Institute. This is potentially a great foundation on which to build the next generation of eLearning products and services.

As mentioned above, there is support available to eLearning companies through policies related to interactive digital media. eLearning companies can qualify for tax credits and grants that the province (and in some cases the federal government) offers. Furthermore, the federal government does provide ongoing eLearning trade mission opportunities that can help companies sell and connect their content to interested foreign parties.

It was not identified by the ONeLearning study whether non-participating eLearning companies are unaware of these programs, do not realize their projects qualify, or do not think it is worth the administrative efforts required to access these funds.

For the grades kindergarten though grade 12 (K-12) in the province, the Ontario government has adopted an opt-in approach to eLearning, and each school board, post-secondary school, and private school can have an assortment of existing content and its choice of learning management systems. The

[4] State of E-learning in Canada. *Canadian Council on Learning*. Ottawa: May 2009. 87- 95.

provincial repository for eLearning content, the Ontario Educational Resource Bank, uses a grassroots approach of teacher-generated content. Although eLearning developers have made forays into the provincial education system, there is no clear entry point or established path for them to follow to sell eLearning products or services. This is not exclusive to the public educational system as private schools follow a similar approach.

The different educational levels of schools (primary, high school, and post-secondary) understandably have varying academic concerns, as well as different non-academic requirements, when it comes to picking eLearning products. This diversity has ramifications on the industry that were unforeseen before our research started. For example, companies focus on targeting only certain grades while neglecting others, and some cultural media companies do not engage in eLearning as result of this specialization. With all these concerns, it is still noteworthy that eLearning companies are producing quality content throughout the grade levels.

Currently, the only consensus around a technical standard for eLearning is SCORM (Sharable Content Object Reference Model), which was authored by the U.S. Department of Defense (for survey results on use of SCORM see Figure 10). SCORM originally focused exclusively on technical specifications for data communications between a user client and a host server. The standard was updated in 2004 to encompass rules for the order in which a learner may interact with eLearning content.

Although some Canadian companies and educators identified SCORM compliance as an important part of their projects' specifications, SCORM's use and perceived value were not universal. The members of ONeLearning are interested in researching what a Canadian SCORM equivalent could do for the eLearning industry in Ontario.

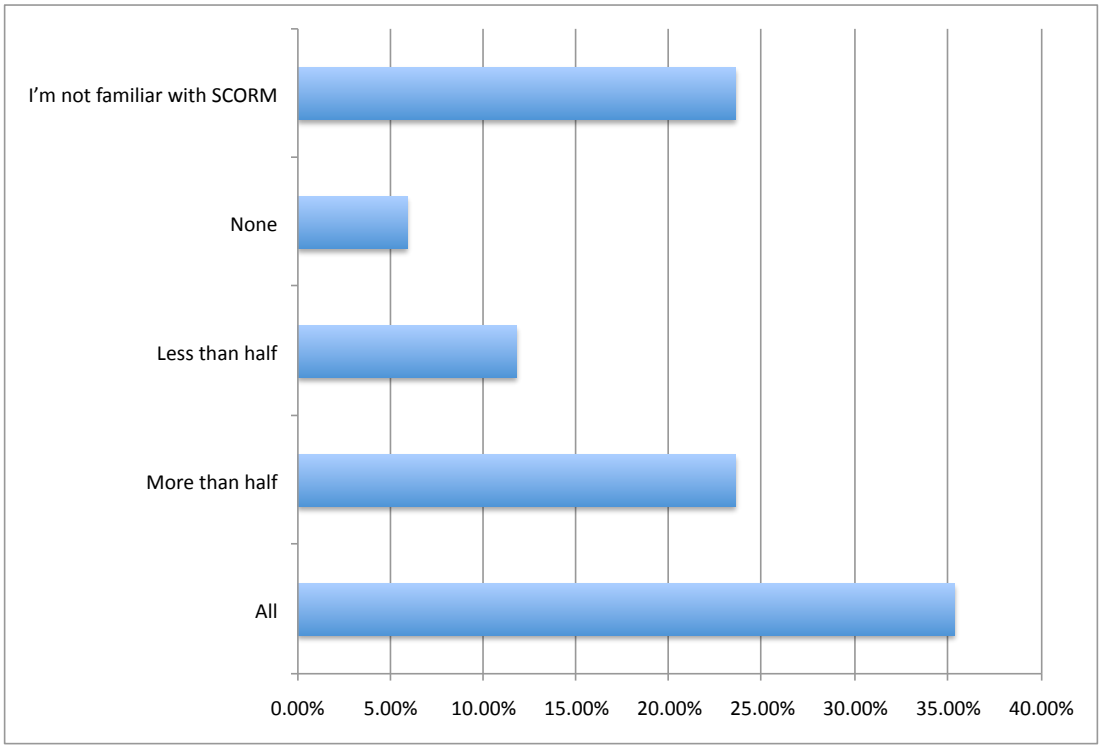
There is also an Ontario Software Acquisition Program Advisory Committee (OSAPAC) that acquires software for province-wide use by schools. Unlike private sales, OSAPAC does not accept presentations or pitches from vendors, but instead puts out tenders for services or products, as well as issuing requests for information[5]. None of the interviewed companies mentioned that

[5] Information for Vendors. *Ontario Software Acquisition Program Advisory Committee.* November 2010. http://www.osapac.org/cms/node/4

they were able to use this entity as a practical starting point for selling eLearning to Ontario schools.

Figure 10

Response to the question:
“Do the eLearning projects you produce adhere to SCORM (Sharable Content Object Reference Model) standards?”



Private policymakers

The content needing to be taught within corporations obviously varies significantly from sector to sector, and from company to company. With these specialized requirements, the private sector typically hires professional trainers, or creates their own training department, both for traditional classroom-based education, and for eLearning.

Many eLearning companies are dedicated to servicing the specific training needs of corporations, which is a direct response to the complexity of the market. The skill sets required by firms that support training efforts within larger corporations can also be applied outside of the province.

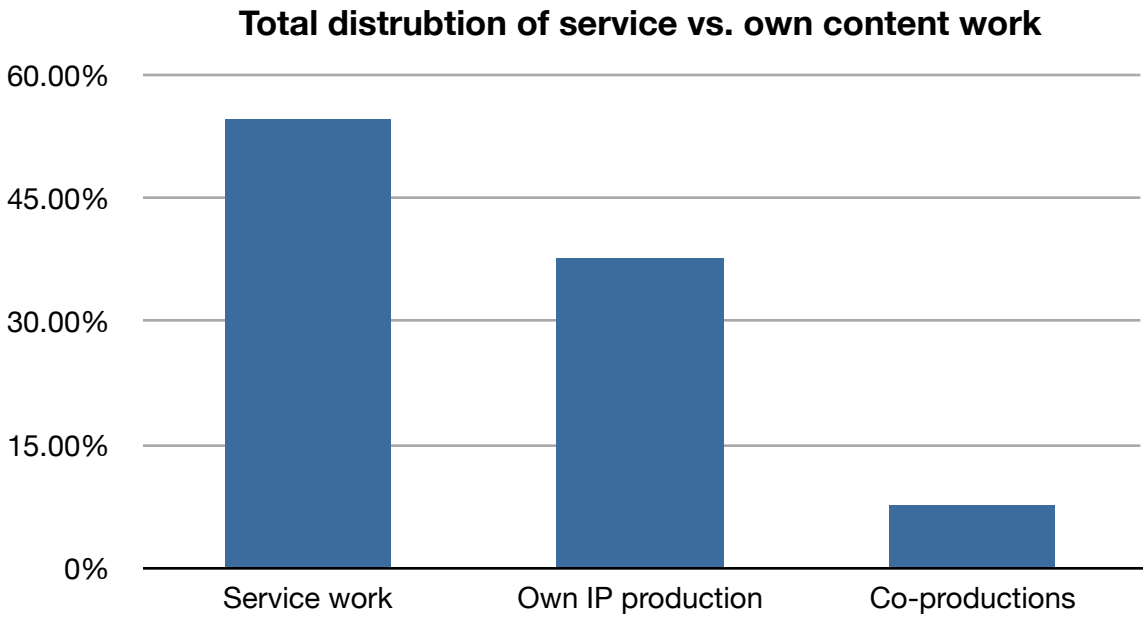
One area of concern that companies working in the world of training have brought up involves the general reluctance of many companies to invest in eLearning. Not all corporations openly embrace the idea of eLearning, and this is particularly the case when it comes to incorporating serious games and simulations. People working within many eLearning departments have mentioned that the use of gaming is resisted by the rest of the organization. However, this sentiment is not universal, and the corporate world of eLearning appears primed to begin adding more serious gaming to their eLearning strategies in the coming years.

We have found through interviews with large corporations that there are also organizational barriers that can limit the effectiveness of some eLearning products, often due to a lack of understanding or preparedness within the target company. Corporations that have integrated eLearning into their training programs have sometimes encountered difficulty in implementation arising from miscommunication about the exact role of eLearning, or false expectations concerning the goal of eLearning. Based on interviews with corporate human resource departments, corporations generally tend to treat eLearning as a method of cutting down on cost overheads, especially travel, rather than as a strategic tool for improving the efficiency and competitiveness of their workforce.

Business strategies for eLearning

Through the survey and interviews, our research has revealed eLearning companies in Ontario do not follow the same business model; indeed, the variety of business models seems to help eLearning companies better serve their respective niche clientele. With that in mind, many survey respondent identified that their revenue came from a mixture of service work, and independent productions (Figure 11). Service work is defined as work performed for other companies that control the final intellectual property, whereas independent productions are intellectual properties created by the company for their own purposes. The balance of work by eLearning companies leans more towards service work, as opposed to creating their own intellectual property. There are eLearning companies whose revenue models are based solely on service work, but even companies that want to produce their own properties still have to take on new service clients to stay afloat.

Figure 11



Creating new intellectual property is integral to growth in the industry because it affords more partnership opportunities, and enables potential sales to foreign markets. This is one prime area where teaming up with other producers of cultural content could be of strategic value.

When it comes to distribution of a market-ready product, eLearning companies have a variety of strategies. Firms creating custom, or service, work for clients inherently do not have to worry about wider distribution. Companies with proprietary product offerings must learn how to distribute them, and distribution methods vary significantly depending on the nature of the eLearning title, and the target market. Through interviews it was revealed that selling to the K-12 educational community has proved difficult for smaller eLearning companies, because purchase decisions are made by each school board. Distribution of interactive digital media products remains a challenge (either real or perceived) for many of the smaller eLearning companies. This issue is true both for domestic and for international sales.

Similarly, marketing of eLearning products is equally challenging. When asked if marketing skills are impeding the growth of eLearning companies 70% of respondents said that they found their lack of knowledge is very or somewhat limiting. The remainder of the respondents answered that it is not very limiting.

External market factors

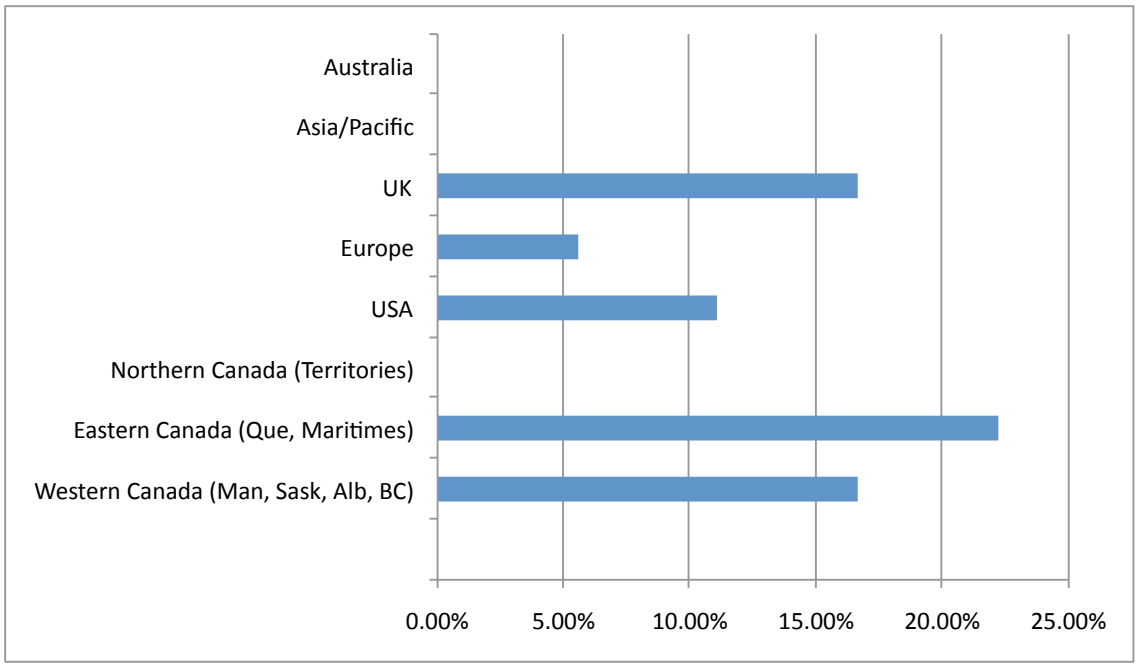
eLearning companies operate in a rapidly changing world and must constantly adapt to and be aware of trends and forces outside of eLearning that will impact them. There are currently multiple external market factors that impact the Ontario eLearning industry, ranging from the local to the international.

The Canadian market is relatively small and companies are concerned about the ability to grow, even if they were to expand beyond the Ontario market to all of Canada. All the respondents sold their products in Ontario with slightly over half of them selling to other provinces, and 11% of respondents bringing in revenue from the USA (Figure 12).

There are a limited number of schools in Canada, and to a large extent they have already made key decisions around their eLearning strategies. For example, in Ontario's K-12 market, the government's eLearning strategy hinges on teachers producing their own content, rather than drawing on the skills of outside eLearning firms.

Figure 12

Distribution of clients and revenues from regions other than Ontario



Market prospects are equally challenging within the corporate market. Although the demand for eLearning offerings within small and medium companies may soon increase, larger multinational corporations generally have existing eLearning solutions in place, mostly produced by their own corporate training departments.

Through interviews and via comments on the survey, respondents expressed concern over copyright issues and the impact they may have on their eLearning initiatives. There are concerns over the retention of copyright in a digital age, with some companies expressing a desire for more Digital Rights Management (DRM). Other companies have complained that it is difficult to get older content, which is still relevant, into their educational products because of lingering or unclear intellectual property rights. There is often confusion about what copyrighted material can or cannot be used in educational products that will be made available for purchase.

Nearly every company surveyed wants to expand their business outside of the country, but is finding it difficult to do so. Forty percent of respondents identified the high Canadian dollar as a somewhat limiting factor to international expansion. Only a single respondent identified operating costs in

Ontario as a limiting factor with about half saying the operating costs are somewhat limiting.

The rationale to get into other markets is twofold:

1. To expand their revenue by entering into new markets; and
2. To stymie the foreign competition that is seen as a growing threat to Ontario eLearning companies.

Amongst practitioners of eLearning there is a very strong feeling that foreign competition is increasing, and a fear that it is only a matter of time until foreign companies outperform Ontario firms. Half of the survey respondents identified strong international competition as extremely or very limiting their ability to expand. Some eLearning companies have expressed concerns over low production values – the aesthetic and creative quality of the media content within eLearning titles – and perceive this weakness as an opportunity for foreign companies to encroach on the local market. It is worth noting that in Ontario, 80% of cultural media companies reporting that Ontario-produced eLearning content is excellent compared to other provinces.

It is clear that there is a fear of foreign competition entering Canada. When speaking with representatives of eLearning companies, they identified competition from the USA and the UK to be the most intimidating. It was expressed by a few survey respondents that the UK has done an excellent job of promoting their eLearning industries internationally.

The future of eLearning

The eLearning industry in Ontario is at a crossroads. Down one path we may witness slow growth or slow stagnation, while the other path promises new levels of prosperity for the province's eLearning industry. Although the eLearning industry could strengthen itself by changing some internal practices, the majority of factors stymieing the growth of the provincial eLearning industry are external ones.

Internal changes to the industry

Our findings suggest that eLearning companies are open to working with other cultural media production companies, and that the reverse is also true. Participating in joint partnerships on projects that produce new and more engaging content is one way that the Ontario eLearning industry can grow. This requires more opportunities for the two industries to interchange and to network than currently exist today.

Cultural media companies that responded to the survey overwhelmingly pointed out that they are unaware of the companies that exist in the eLearning field, and do not know how to go about meeting and working with these companies.

One way that both the independent eLearning companies and the cultural media producers can continue to grow is through co-productions – ventures where both contribute and have a stake in the potential revenue from an eLearning product.

eLearning companies need to make more use of the existing programs that the provincial and federal governments offer. The partnering of eLearning companies with other cultural media companies may show eLearning companies what programs or services they can benefit from.

Tools and technologies used in the educational field can potentially also be applied to development and delivery of corporate eLearning, and vice versa.

Connections and interchanges between companies producing material for these different markets should increase.

Analytics and assessment of eLearning

Standardized analytics for measuring eLearning effectiveness are still needed, and almost all of the companies interviewed acknowledged this. Generally, products track the number of times various screens are viewed, or other basic information about the user, but few of them track the success of final outcomes in terms of achieving learning goals reliably.

The main challenge in quantifying eLearning effectiveness relating to learning goals and outcomes is that, in many cases, the demonstration of the acquired knowledge occurs away from the computer, and on the job. One suggested approach to this issue is to create a standardized way to assess learning outcomes from eLearning products. However, a homogenized approach may prove fruitless as the technology and techniques continue to be refined and improved every year. Each industry, level of schooling, and geographical region requires specific knowledge to be transferred, and the method for doing so may be effective for one sector but not for others. A one-size-fits-all approach to eLearning assessment may also do more harm than good by limiting the pedagogical goals that a project is measured by.

Corporate trainers often track the effectiveness of their eLearning program through rote analytics, which measure the penetration and uptake of eLearning projects. These typically look at how many people experienced the needed training, and how well they scored on a follow-up exam, often a multiple-choice test. The larger corporations that were interviewed commented that eLearning is seen as an inexpensive method to distribute training materials and to save money on hiring corporate trainers.

If the corporate world is going to modify its view of eLearning purely in terms of cost savings (e.g. saving travel costs) to more in terms of creating a smarter and more competitive workforce the eLearning sector could be even more successful. In order to accomplish this, the eLearning sector needs to find an effective and accepted way for eLearning products to be assessed.

Digital games

Another way that eLearning companies can grow is by making a larger push into the games market, by producing what has been recently called serious games – the practice of using virtual worlds, simulations, and game scenarios as educational tools.

With the strong independent game scene in Toronto, and the enticement of larger corporations into the province, the opportunities to create serious games have never been better in Ontario. The use of digital games in education is becoming more popular, as instructors increasingly strive to embrace and integrate interactive digital media, and to accommodate an emerging generation raised on games, digital media, and social networks.

Partnering on projects with Ontario's game development companies will benefit both sectors by exposing them to new markets. The product offerings and quality of educational games can only benefit by having the games and eLearning sectors be better connected.

External factors that impact the industry

No industry operates in a silo, and eLearning requires a balance of external elements to ensure ongoing success and growth. The role of educational institutions, governments at all levels, and even the hiring practices in the private sector, all have a significant impact on the success of the industry. Of course, other factors like new technologies and pedagogical practices also play a role, and the eLearning industry needs to be conscious of these areas, while policy-makers need to be aware of their influence on eLearning in Ontario.

Public policy

Despite efforts in the past to clarify strategy for the province, eLearning companies are still concerned about mixed messages and no clear direction from any level of government.

Some of the recurring concerns expressed during interviews and case studies were:

- There is a need for a clear and cohesive message and a strategy concerning the eLearning industry in Ontario,
- Accreditation bodies at all levels of government should outline eLearning requirements and standards,
- Government policy and industry support should bring together researchers, companies, government, and the creative sector to enhance eLearning in Ontario.

The eLearning industry should leverage Canada's international reputation for quality, innovation, and social responsibility when developing the content of eLearning offerings meant to compete in the global market. In order to maximize this opportunity, there needs to be more committed government support in concert with industry organizations for exporting eLearning to new and emerging markets that have not yet been accessed. However, it is not solely up to the government to create and support an eLearning strategy – the private sector will need to contribute too. eLearning industry organizations can encourage the growth of the industry by championing the good work and projects that are being created in Ontario.

Informing eLearning companies about the tax credits and other similar programs can positively impact the industry. This would be made easier if there was a distinct eLearning cluster. Since it is unclear why eLearning companies are not accessing existing programs, further investigation is merited to find out why. Overall, public policy should reflect the changing landscape of eLearning, evolving from being focused primarily on distance education to encompass the other forms of training and teaching that eLearning enables.

Foreign competition

The international eLearning market is set to grow from US $27.1 billion in 2009 up to $107.3 billion by 2015[6]. This growth in the coming years is something that eLearning companies can profit from if they are to be able to expand into foreign markets with greater success.

[6] Global eLearning "Market to Reach 107.3 Billion by 2015, According to New Report by Global Industry Analysis." StreetInsider.com. 20 Sep. 2010. Web. 27 Oct. 2010.

The future growth of eLearning in Ontario will be greatly influenced by foreign competition. Indeed, the smaller and independent eLearning companies in the province have expressed great concern over foreign competition entering the Canadian market. In an increasingly global marketplace, with a rapidly accelerating worldwide digital economy, it is probable that foreign competition will impact eLearning in Ontario.

The main concerns over the impact of foreign competition centers around the introduction of foreign-produced higher-budget content. Companies from countries with larger domestic markets have more resources to draw on, and to exploit for the creation of quality products. During the case study analysis many people brought up the support the United Kingdom gives to their eLearning industry. Survey respondents echoed this concern and specifically identified the work coming from the BBC's educational programming to be "outstanding" while praising the UK's "strategic funding" for eLearning products.

If Ontario-based eLearning companies are going to have international success they will require more than just strong product offering; they will need specific support from the provincial and federal levels of government. As mentioned above, it is worth noting that the government cannot provide this alone – it is up to the eLearning industry to self-promote and work with the government to ensure that Ontario companies excel internationally.

Financing

Funding for eLearning companies in Ontario comes primarily from private sources, with owners contributing their own capital. There is a demand for capital from other sources, both private and public, to fund the expansion of eLearning companies and the production of proprietary content. The lack of financing is perceived as hindering the growth of eLearning in Ontario, and as such, represents a place where government policy, industry associations, and private capital can have a major impact.

Connecting eLearning companies to venture capitalist and other private financing options can help expand the industry and improve the quality of eLearning projects in the province. Survey respondents reported that, for those

firms who were seeking it, access to the people or companies that can provide funding for international expansion is hard to find.

Helping companies find out about these programs is important, and so is getting their feedback about them. After further research it may be discovered that targeted support for eLearning may look fundamentally different from support for other cultural industries.

Digital Literacy and Lifelong Learning

Digital and information literacy are integral to the adoption of eLearning. Canadians are considered to be digitally literate (that is understanding and effectively using digital technologies); this advantage cannot be taken for granted[7]. As more countries support their eLearning and interactive digital media initiatives their people will also become more media literate.

The Ontario school system needs to encourage the teaching of more media literacy to ensure that Ontarians have a solid skill set in the knowledge economy. Strong and far-ranging media literacy will help grow both future consumers and producers of eLearning (as well as of interactive digital media in general).

Employees within the knowledge economy need also to be well-versed in digital literacy in order to stay highly trained and to receive new knowledge that can drive economic growth. There already exists a growing concern that digital literacy skills are lacking, and that this inhibits people's ability to make full use of eLearning. [8]

Companies have realized that eLearning can lower training costs and increase the capacity of training departments. There is a strong interest in continuing this trend by adopting eLearning tools. One key way to ensure ongoing growth in this area is support for media literacy. The more familiar people are in using interactive digital media, the easier it is for them to use eLearning products.

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[7] Digital Literacy: Canada's Productivity Opportunity. *Information and Communications Technology Council*. 2010. 1 December 2010.

[8] For more on the complexity of digital literacy see:
Digital Literacy in Canada: From Inclusion to Transformation. *Media Awareness Network. 7* July 2010.

Conclusion

There is a substantial amount and wide variety of eLearning development taking place in Ontario. In addition to the more than 120 specialized eLearning development firms identified by this study, there are dozens of government-sanctioned educational eLearning entities, and thousands of corporate practitioners. There are also many others, like producers of educational offerings for children, or software developers of industrial simulations, who create content with a learning flavour, but who are not overtly identified as eLearning firms.

Despite this proliferation of eLearning activity, there is no formal government strategy, certification process, or centralized cluster to achieve synergism and foster competitiveness in the province's eLearning sector.

Ontario has thriving and internationally recognized cultural media sectors, many of whom are being impacted by the transformation of other content to digital formats. These groups have skills and assets which could meld effectively with the creation of new eLearning content.

eLearning in Ontario is at a critical point. The industry can continue as a largely ignored sector that will experience only slow growth, or it can be transformed into a strategic resource – one that not only will help position the province's workforce for the new knowledge-based economy, but can also potentially tap into emerging global markets.

Some areas to be addressed have already been identified and are described in this study. However, further research is clearly needed in order to better understand this diverse and complex industry, and to formulate effective strategies for the future.

Further research

The survey conducted by IO was designed to capture what is essentially a snapshot of the eLearning industry in 2010. The research that has been conducted does provide a good overview of the state of eLearning but, more importantly, it has unveiled areas that need to be examined in more detail.

The IO eLearning committee suggests the following areas be researched in the future:

Compare the state of eLearning in Ontario with the rest of Canada

Each province has tackled eLearning differently, as other studies have shown. There should be further investigation, similar to the IO research in Ontario, conducted in other provinces. A comparison of their effective policies would benefit all provinces to create a more national strategy around eLearning, which would help to make all of Canada a world leader in eLearning.

Investigate the policies and practices of Foreign governments

Future research should examine the policies that have been implemented in other countries, and how they have positively or negatively impacted their national eLearning industries. Those policies should be compared to Canada's current practices and attitudes, with the goal of providing both industry and government with effective policy suggestions to increase the quality and strength of eLearning in Ontario.

Conduct research into simulations in heavy industry and health care

Training simulations play an important role in heavy industry and health care training, but our research was unable to conduct a closer examination of who develops that simulation software, and what its effectiveness was. We attribute this inability to incorporate these simulations into our overall research findings to the fact that these companies generally do not identify themselves as interactive digital media firms, which has been our primary route of outreach. The overall perceived size and value of the eLearning industry might itself be affected by data from this sector.

Assess HR and eLearning departments within large corporations

Our survey was filled out by mainly small and independent companies, not by large multinational firms, and we acknowledge this impacts the data and conclusions. The sheer size of and scope of the human resource and training departments in larger Ontario-resident corporations has made identifying them

all and contacting them an arduous task. We were able to speak to a sampling of major companies about their eLearning policies and best practices, and the concerns of these departments varied from those of independent companies dedicated to producing eLearning content.

Study how unrelated government policies impact eLearning

Each province has tackled eLearning differently, as other studies have shown. There should be further investigation, similar to the IO research in Ontario, conducted in other provinces. A comparison of their effective policies would benefit all provinces to create a more national strategy around eLearning, which would help to make all of Canada a world leader in eLearning.

Investigate what a training program would encompass for teaching people the best practices of eLearning

Additional research is needed as to why there are almost no specialized eLearning programs in Ontario, and a complete lack of certification. There is a preponderance of post-secondary programs training people within the games industry, and similarly there are a number of teachers colleges, yet no hybrid programs exist for melding the two disciplines – despite the increasing use of serious games and simulations for eLearning.

Appendix

Cultural media and eLearning analysis

The members of ONeLearning share their thoughts and personal opinions on the industries around cultural media. Since every cultural sector could not be represented in this selection from the ONeLearning committee it is encouraged to look at the OMDC's industry profiles.

OMDC's industry profiles can be downloaded here as PDFs:
http://www.omdc.on.ca/Page5483.aspx

Ontario Book Publishing Profile
Summary by Danny Dowhal

According to the OMDC's Industry Profile, Ontario has the largest and one of the most profitable book publishing sectors in Canada. Its operating revenues are more than twice those of Quebec's publishing sector—the second largest provincial book publishing industry in Canada—and Ontario's profits are more than one-and-a-half times higher. Foreign-owned corporations dominate the market, and the Canadian-owned book publishing industry in Ontario comprises mainly small to medium-sized firms.[9]

Among the several challenges book publishers face, changes in technology is prominent. 2010 saw a substantial growth in e-book sales, with the global e-book market expected to be fueled by new portable readers in North America, and smart phone penetration in the Asia Pacific.[10] The global consumer and educational book publishing market is anticipated to grow at a compound annual growth rate of 1.9% to US $118.8 billion by 2014.[11]

The new e-book technology platforms are more than a simple digital representation of analog books. The Apple iPad, which was announced in April 2010, is at the vanguard of the new generation of e-readers. This devices enable the melding of traditional published content, and applications (a.k.a. "apps") which allow books to be integrated with other media, games, and interactive computer programs to create a new generation of online books. The addition of wireless communication technology to the

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[9]Book Publishers 2008. *Statistics Canada*. Catalogue no. 87F0004X, Table 1, June 2010.

[10] Global Entertainment and Media Outlook 2010-2014. *PricewaterhouseCoopers (PwC*), pg. 540. 15 June 2010.

[11] *PwC*, pp. 36 and 542.

devices also allows e-books to be tied to internet websites and social networking applications.

The industry leaders in the e-books field tend to be the large, multinational aggregators and distributors who have the capital to take risks, such as Google, Sony, Amazon and the Canadian based Harlequin Books.[12] Canadian-owned Ontario publishers have limited access to capital, and face issues concerning e-books, including difficulty acquiring, retaining, managing and exploiting ownership and control of digital rights.

Nevertheless, if these issues can be resolved, the ability to partner with the province's eLearning sector to develop and distribute a new generation of interactive learning content residing on e-readers is an opportunity for both sectors. This includes:

- The reinvigorating by publishers of existing textbooks and learning materials with new digital eLearning functionality
- The migration of eLearning practices and technologies to the new e-reader and tablet platforms.

Adapting to this new emerging class of e-books and creating a sector that can continue to compete globally in the future is especially important in light of past difficulties by publishers in getting Canadian titles into Canadian schools. Studies had already recommended lobbying the Ministry of Education to release funds specifically for Canadian-authored books and to set a minimum for Canadian content for school libraries.[13] In the future, a healthy and competitive Ontario eLearning sector may well be required to enable Canadian stories and content to be delivered to the province's learners.

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[12] Castledale Inc., in association with Nordicity, A Strategic Study for the Book Publishing Industry in Ontario, September 2008, p. 6.

[13] Association of Canadian Publishers, Ontario Library Investment Project: Marketing Canadian Books for Ontario Children, September 2009, pp. 2-3, 8.

Independent filmmaking and eLearning
Submission by Lance Carlson

As an independent filmmaker who is attempting to exploit some existing assets (film content) I feel this report could be very useful in providing perspective and direction for moving my projects forward. It seems that most current e-learning in Canada is 1) corporate (contract work for clients), 2) institutional (in house or contracted specialists) or 3) by large publishers who may have large budgets but also wish to retain control and equity rather than partner with small developers. I feel there is a gap for completely independent educational products aimed at the consumer and educational marketplace such as I am attempting to do.

My experience may come from a rather narrow perspective as I am essentially an independent filmmaker who is attempting to convert some existing legacy assets (films) into educational products. Response from individuals who assessed the project was very positive. However due either to my inexperience in the e-learning industry or lack of contacts in the educational publishing industry, I have unable to complete any of the projects I have envisioned. My impression is that large publishers who could afford to support a project like mine are not interested in partnering with small developers.

I feel that Canadians would respond well to high quality e-learning products regardless of where they originate but would welcome domestically made product, with regional subject matter presented from a mature global or universal perspective. Canadians are generally well educated and would in particular welcome e-learning products aimed at children, youth and teens if it facilitated or accelerated their educational objectives (for themselves or their children).

The proximity to the United States and our close heritage with Britain and Europe gives Canadians a good and balanced perspective in matters of education, history, politics and culture and would in most circumstances or for most people offer a range of advantages in appreciating leading edge educational methods and technologies.

I feel there is ample potential for existing information communication technology to achieve prominence but obviously Canadian produced materials will only be possible (profitable) when produced with a globally acceptable standard (production quality and value of content). I feel there is sufficient confidence and comfort with who we are for most of us to create projects which can meet these objectives. Our penchant for wanting to please and get things right as well as to over-manage and over-administrate (supporting institutions) can tend to be counter productive and inefficient, resulting in reduced competitiveness of independent developers.

The Ontario eLearning Sector: A Current Assessment
Submission by Danny Dowhal

Although the term eLearning covers a broad range of styles, formats, and applications, the industry itself is well-established and mature. In Ontario, eLearning practitioners can generally be divided into three categories:

1. Independent firms developing eLearning, either exclusively or as part of a broader portfolio of interactive digital media (IDM) products and services
2. Corporations or institutions that have specialized internal departments or development groups producing eLearning offerings
3. Companies providing a supporting technology, such as a Learning Management Systems (LMS), used by 1 and 2 above.

eLearning companies can be further subdivided into two types, or a combination thereof:

1. Companies developing eLearning titles as proprietary offerings for sale or licensing
2. Service firms developing eLearning products for a third party on a for-hire basis

The multiplicity of eLearning practitioners is as far-ranging and diverse as the province itself. In general, the business model behind eLearning lies in the ability to take advantage of existing information technology and digital infrastructures, especially the internet and its world wide web, to deliver learning in a manner that transcends space and time. As such, it is most often used as a cost-effective alternative or a supplement to traditional classroom teaching and training. From remote First Nations groups in the north trying to overcome geographical barriers, to corporations endeavouring to save on travel expenses, eLearning's cost effectiveness has been consistently proven.

More recently, however, with the growth of learning audiences whose personal and social lives increasingly involve digital activities, eLearning technology has become more than just a convenient cost-saving measure. By adopting popular and cutting-edge areas such as games, virtual worlds, and social networking, the overall efficacy and acceptance of online learning has increased.

Unlike other constituencies, both nationally and abroad, there is no centralized strategy or coordinating agency for Ontario's eLearning cluster. Similarly, while several national and international organizations exist that encompass the eLearning field, there is no such provincial organization – unlike jurisdictions such as British Columbia, Quebec, Alberta, and New Brunswick. So, while there are a large and active number of Ontario eLearning developers, even more so when you take into account that virtually every major corporation operating within the province has an internal eLearning group, the field goes largely ignored (and neglected) by government agencies.

Ontario also has a vibrant and internationally-recognized sector developing online children's programming. Almost universally, this content has a general or specific learning orientation, but the production companies developing the material tend to identify themselves with the kids space, and not as eLearning firms.

Case studies

This selection of case studies are meant to capture some of the best examples of eLearning practices. With the case studies we were able to interview people to get a better look into the projects presented below. The remainder of the case studies have been comprised of publicly-available information.

Please note that the case studies are not presented in the following order for any particular reason. The selection of case studies below does not reflect all the case studies that were written, these show a good cross-section of the industry.

Case Study 1

This case study examines a training program used at RBC and developed by Redwood e-Learning System. It is a great example of eLearning being used in a company with thousands of employees.

Name of project	Awareness of Privacy & Information Risk Management (P&IRM) Best Practices
What is it Please be specific.	*Meet Sam* is a web-based series of ten brief, principles-based videos, referred to as *learning moments*, each approximately two minutes long, which model the practical application of P&IRM best practices (and requirements) in an effort to boost awareness and practice across RBC. The *learning moments* use flash and avatar technology with 3D motion animation to be more visually engaging and to convey realistic and relevant messaging around prioritized high-risk areas in P&IRM.
Name of developers Please specify any partners and key personnel.	Redwood e-Learning Systems Inc. RBC Global Compliance Governance (Content) RBC Learning (Project Management, Learning Design, Social Media and Web design)

Where was it released	• RBC Corporate Intranet, supported by social media software and an employee participation incentive program (draw for one of ten iPods). Employee participation was voluntary and managers were encouraged to use these in their regular team meetings to generate discussion and support an informal learning environment across the organization to supplement the formal learning. • DVD available to all employees globally (to benefit areas of low bandwidth access) with a downloadable version for employee's personal iPod use. • RBC's public website (Three of the *learning moments* were modified for client education and placed on the RBC website.) (http://www.rbc.com/privacysecurity/ca/cyber-security-awareness.html) • 7 of the *learning moments* were subsequently repurposed and integrated into the "Fundamentals of Privacy & Information Risk Management" training course. This course is a mandatory requirement for all employees.
Who commissioned it: (if applicable)	Royal Bank of Canada (RY on TSX and NYSE) and its subsidiaries operate under the master brand name RBC (http://www.rbc.com). Canada's largest bank as measured by assets and market capitalization, and among the largest banks in the world, based on market capitalization.
Who is the audience and who uses it?	RBC Enterprise employees globally (approximately 77,000) Also, three of the *learning moments* are available to clients and potential clients on the RBC website.
Release date	Bi-weekly release between February, 2008 – June 2008 Placement on RBC website in March, 2009
Budget Range is acceptable.	Between $20,000 and $30,000 per *learning moment*
Type of project (serious game, simulation, etc.)	*Learning Moments* supported by a Quiz Poll and an Employee Comment Blog

Project Objective What are the goals and requirements of the project?	Privacy, Information Security, and Information Risk Management are foundational to banking and financial services businesses. At RBC, there is a longstanding commitment to safeguarding the privacy and confidentiality of our clients, employees, and other third parties. Emerging best practices in ethics & compliance learning suggest that creating and disseminating short, compelling messages to reinforce employees' existing knowledge and best practices helps maintain an appropriate focus with organizations. The objectives: a) Increase employee awareness to better manage risks associated with P&IRM requirements. b) Meet regulatory requirements to ensure RBC employees are trained on P&IRM requirements. c) Increase knowledge retention and application by presenting a learning tool which uses short, engaging, and relevant messages; d) Support diversity of learning styles and accessibility by using the web channel and a "You-Tube" look and feel e) Using an extensive employee communications strategy, test the concept of voluntary learning by not making the viewing of the Learning Moments mandatory; f) Increase employee engagement by offering social networking tools to capture/share employee feedback/ratings for each learning moment and challenge learning through Poll surveys; g) Test the global receptivity of avatar technology (using game-like characters) and audio & graphics versus simply stand-alone text.

Solution How does it solve the issues raised in the objective?	Choosing to launch an awareness communication initiative to global employees overcame key obstacles for ethics and compliance messaging. Results: • Respects employees' time – the Learning Moments are accessible anytime and anywhere employees are logged into the Corporate intranet. • High employee engagement levels – employees had opportunity for further engagement and knowledge sharing by leveraging social networking tools on the "Sam" websites using comment blogs and Quiz Polls for each release. • By creating a new branding tool for Compliance, "Sam" established a consistent voice for compliance messages, developed credibility and fostered employee buy-in. • P&IRM compliance groups validated an increased level of privacy and information security reporting following release of the learning moments, validating a heightened awareness of P&IRM issues, and further promoting a culture of compliance across the organization.
What specialised skills does it employ? (Additionally, was the product designed in-house?)	The overall program was designed in-house by RBC Learning. A series of external vendors were engaged as follows: (a) Redwood e-Learning Systems Inc. • Adobe Flash • iClone 3D motion animation software (avatar) (b) Biz Improv (script writing with significant support from the content owners in Global Compliance Governance, RBC Law Group, RBC Employee Communications, RBC Web Services, and RBC Learning) (c) Pollstream (social media platform software)
Links and sources	RBC public website for Information & Security: http://www.rbc.com/privacysecurity/ca/cyber-security-awareness.html

Case Study 2

To accompany our survey we also looked at how eLearning is used in health care. This helped to understand one way that eLearning is used.

Name of project	UHN E-learning Course Development for Healthcare
What is it Please be specific.	A full suite of e-learning courses for healthcare staff. Courses range from non-clinical courses with a healthcare focus (e.g. Fire Safety, WHMIS) to clinical courses directed at Canadian healthcare providers.
Name of developers Please specify any partners and key personnel.	University Health Network eLearning Education department – an internal team of developers and subject matter experts
Where was it released	Princess Margaret Hospital, Toronto General Hospital, Toronto Western Hospital
Who commissioned it: (if applicable)	University Health Network
Who is the audience and who uses it?	Internal staff and related external organizations
Release date	Ongoing
Budget Range is acceptable.	Courses are generally between 15 and 20 minutes long and cost between $3500 and $25,000 to develop. Courses that incorporate gaming, virtual environments and simulations generally begin at $5000 and can cost upwards of $100,000 to produce.
Type of project (serious game, simulation, etc.)	Web-based delivery • e-learning • Serious games • Simulations • Virtual worlds
Project Objective What are the goals and requirements of the project?	Goal is to develop both clinical and non-clinical courses for a Canadian healthcare audience.

Solution How does it solve the issues raised in the objective?	UHN found that there is a lack of e-learning resources available for the Canadian healthcare sector. By creating a unique team of technical developers and subject matter experts they addressed this need for their own staff and also for other healthcare organizations
What specialised skills does it employ? (Additionally, was the product designed in-house?)	Products are developed in house. Skill sets that employed are as follows: • Subject matter experts – Content experts who are practicing clinicians. • Instructional designer • Developers • Technical specialists • Writers/editors • Quality Assurance

Case Study 3

Novice: A beginners guide to hockey shows a successful project that received funding from a government program and went on to be a commercial success.

Name of project	NovICE: A beginners guide to hockey
What is it Please be specific.	Introduction to hockey for people who are new and not familiar with the sport.
Name of developers Please specify any partners and key personnel.	The Learning Edge Corp. Funding received from the pl@tform program (OMDC/ IO)
Where was it released	Online for one year with a focus on Canada and particularly Ontario
Who commissioned it: (if applicable)	N/A
Who is the audience and who uses it?	Parents of kids who play hockey Kids who are not familiar with the sport
Release date	2006 (online) Sales are ongoing as a CD
Budget Range is acceptable.	$37,000
Type of project (serious game, simulation, etc.)	Casual Education, Non-Curricular
Project Objective What are the goals and requirements of the project?	Demonstrate that “edutainment works” Put a large amount of information into an entertaining and engaging medium Corporate goal was to try out producing proprietary content instead of being a 100% service company.
Solution How does it solve the issues raised in the objective?	Achieved corporate goal and they are now producing their own content, complemented by ongoing service work. Hockey coaches agree that NovICE works and that hockey can be taught and learned through edutainment Coaches and Hockey Canada enjoy the level of detail that NovICE goes into
What specialised skills does it employ?	-All done in-house -Writing, both pedagogical writing and creative writing to keep the content entertaining. -2D and 3D animation -Video -Voice acting -Programming in flash and ASP

Links and sources	-No longer online
Other notes and questions	-Released in English -Distributed on Sympatico for one year then afterwards sold to coaches, Hockey Canada, and Hockey Hall of Fame. In order to do this they had to tweak some content (remove “fluff”) and improve tech (CD distribution instead of online). -TLE would have preferred a larger budget to improve the 3D animation and interactivity of NovICE to make it more immersive -In a good way, the budget limited scope of content to only the components and tools of hockey and not skill sets -Potential new product is a serious game based on skills training for hockey players “There’s a market out there” “The big market is on the skills”

Case Study 4

The OLG used eLearning to teach all customer-facing OLG employees how to better engage with customers with disabilities. They made effective use of scenarios to train their employees.

Name of project	OLG OADA Training
What is it	Internal training for all customer-facing employees teaching them to better serve customers with disabilities
Name of developers	The Wired Schoolhouse, Toronto
Where was it released	Internal release throughout Ontario to entire OLG organization
Who commissioned it:	Ontario Lottery and Gaming
Who is the audience and who uses it?	OLG customer-facing employees
Release date	September 2009
Budget	$25,000 to $40,000
Type of project	• Scenario-based interactive eLearning delivered via internet. • Scenarios were video and photography shot on site at OLG locations
Project Objective	• Teach all customer-facing OLG employees to better understand and serve customers with disabilities • Part of the legal compliance for Accessibility for Ontarians with Disabilities Act (OADA)
Solution	• Shot videos and still photos at OLG locations • Added custom voice-over using professional talent • Integrated AODA subject matter • Created interactive web-based interface and interaction • Used the content as part of Train the Trainer for internal education

What specialised skills does it employ?	• Photography and videography • Writing and AODA subject-matter knowledge • Flash development and ActionScript ;programming • Web programming • Information architecture and interface design
Links and sources	http://www.olg.ca/accessibility.jsp
Other notes and questions	• The Wired Schoolhouse seems to be developing a niche providing AODA expertise. In addition to OLG have done similar work for Colleges Ontario and the Toronto Transit Commission (TTC) • Focus on production values and interactivity • The course was recognized for its high quality and won an award for excellence • This was a completely custom offering, and fully-branded by OLG • With diversity of geographical areas covered by OLG, the online training was deemed highly efficient, with recognizable cost savings

Case Study 5

This project captures how eLearning can use all available formats to convey a singular storyline and experience.

Name of project	Rock Mars
What is it	Online Science/Civics course, with some Math, for Grades 6-9 following the Ontario Curriculum.
Name of developers	Wero Creative, Teach Magazine, Richard Lachman (consultant)
Where was it released	Ontario (but applicable to all provinces)
Who commissioned it:	Inukshuk Fund
Who is the audience and who uses it?	Teachers and students of Grade 6-9 Science and Civics
Release date	September 2009
Type of project	Group-based website with embedded serious game, plus specialized lesson plans for instructors
Project Objective	• Provide accessibility to learning via distance education • Create an engaging cross-curriculum learning expereince • Develop an improved delivery platform, including back-end features for teachers • Incorporate alternate reality gaming into learning to make it more enjoyable

Solution	• Trimmed down the alternate reality component to be conducive to the traditional classroom environment; made the alternate reality component less confusing • Implemented successful cross-curriculum learning content. Received positive feedback from users plus a favourable evaluation from ABEL (Association for Broadband-Enabled Learning) • Lesson plans were stored online for efficient delivery to teachers • No technical issues were encountered • Usability of all online content was rated good • Members of Science Teachers Association, and Ontario Science Centre, veted lesson plans
What specialised skills does it employ?	• Serious Gaming • Web programming • Flash development and ActionScript programming • Subject matter expertise: Science, Math • Pedagogical expertise for overall design
Links and sources	http://www.werogame.com/mars/
Other notes and questions	• Very much a collaborative effort • Lots of enthusiasm on the development team • Difficulty finding a distributor following completion • There is no good distribution network for digital offerings

Case Study 6

The Great Canadian Mine Show wanted a way to engage the general public through the use of a game and this case study captures how an industry used a serious game to educate people about the mining industry.

Name of project	Great Canadian Mine Show Game
What is it Please be specific.	Kiosk for public relations
Name of developers Please specify any partners and key personnel.	Core Talent Games (plus a specialized team)
Where was it released	Across Canada
Who commissioned it: (if applicable)	Great Canadian Mine Show
Who is the audience and who uses it?	General public, and now resides at Science North
Release date	2001
Type of project (serious game, simulation, etc.)	Started as a board game then went digital Simulation
Project Objective What are the goals and requirements of the project?	• Interactive game as a source of knowledge transfer and encourage a richer understanding of the mining industry • Corporate- level management sim • Inspire conversations about difficulty of setting up a mine and operating a mining business
Solution How does it solve the issues raised in the objective?	• Found that a six-minute game worked best • Learning goals were achieved and even CEOs of mining companies found it engaging
What specialised skills does it employ?	Hired animators in addition to web programers
Other notes and questions	• Starting from a board game was an advantage • Aimed to capture the intensity of mining • Done in a cartoony style

Case Study 7

This case study is a great example of taking a project from advanced education and turning into a viable business.

Name of project	ePresence
What is it Please be specific.	Solution to bring presentations online and on-demand properly through a rich media experience.
Name of developers Please specify any partners and key personnel.	Project originated at the KMDI and was open source. Currently Captual Technologies maintains and monetizes the project.
Where was it released	Global.
Who commissioned it: (if applicable)	Captual Technologies continues to develop it
Who is the audience and who uses it?	Academic and health institutions are the primary market with a growing secondary market of medium sized business and non-governmental organizations.
Release date	2008
Budget Range is acceptable.	Received seed capital from Caseware plus a contribution of code and a network of existing customers
Type of project (serious game, simulation, etc.)	Presentation recording and capture for educators

Project Objective
What are the goals and requirements of the project?
	• Deliver all content of a lecture (originally just broadcasting then expended)
	• Create an elegant and easy to use product that educators and learners can use
	  • This was a challenge because the learning curve of the product had to essentially be zero
	  • Getting rid of the learning curve was a competitive advantage

Solution How does it solve the issues raised in the objective?	• All objectives were met and in some cases exceeded them • Latest version is passive (doesn't need to be activated by the presenter) • Captual Technologies has found that a support system is essential to a good customer experience • They have since found way to make it seamless with other presentation software

What specialised skills does it employ?	• Uses open source code • User design and overall user experience design • Took good computer scientists to build the system and good social studies to design it • Had to use lawyers to avoid patent issues
Links and sources	
Other notes and questions	They still embrace the open source attitude and foundation of their system. The biggest challenge for this project was to capture content without being obtrusive. Planning to move to all HTML5 standards

Case Study 8

Taking a traditionally boring subject and making it interesting is a problem that many educators face, this case study examines how one company has overcome that problem using eLearning.

Name of project	History of Biology
What is it Please be specific.	An educational experience about the history of biology
Name of developers Please specify any partners and key personnel.	Spongelab
Where was it released	Worldwide
Who commissioned it: (if applicable)	SpongeLab
Who is the audience and who uses it?	Senior level high school and entry level college/ university
Release date	September 2010
Type of project (serious game, simulation, etc.)	Cross-curricular biology game
Project Objective What are the goals and requirements of the project?	• Examine how moral and scientific issues around biology were addressed in history • Captivate learners in a traditionally boring topic • Sewn together by a narrative • Secondary objective to create game engine for future projects
Solution How does it solve the issues raised in the objective?	Objectives above were all met and they are pleased that the game engine does work.
What specialised skills does it employ?	• Wrote game engine for the game that randomizes content and has made use of creative design and code • Custom artwork • Story was based on reality and made use of extensive research into the history of biology
Links and sources	http://www.spongelab.com/history/

Other notes and questions	• Unlike commercial games they expect healthy sales to continue beyond the first three months of the game's release • Narrative is very important and needs to be integrated into the design process • Had students from Centennial College work on it

Case Study 9

Another good example of a serious game put to good use with effective results. This game was designed for professionals who want to improve their negotiations.

Name of project	The Professional and Ethics Simulation
What is it Please be specific.	Simulation for dealing with farms in receivership.
Name of developers Please specify any partners and key personnel.	ZapDramatic
Where was it released	Canada
Who commissioned it: (if applicable)	Agriculture Canada and the Canadian Agricultural Association
Who is the audience and who uses it?	Bankers and accountants who have to deal with farms that are in receivership
Release date	2005
Type of project (serious game, simulation, etc.)	Negation simulation
Project Objective What are the goals and requirements of the project?	• Create a better resource to teach negotiation as their existing handbook was not adequate • Lower the the instance of conflict of interest problems • Demonstrate how easy it is to actual be in a conflict of interest
Solution How does it solve the issues raised in the objective?	• Created a day in the life of a farm consolidator • Relationship-driven game • Simulation worked because it was designed to not trick the user. They found where real people would slip up and incorporated that into the design of the simulation.
What specialised skills does it employ?	• Pedagogical negotiation skills and dispute resolution • Flash
Links and sources	http://zap.ca/start.html
Other notes and questions	• Tested on the target market and they all failed the simulation • Zap used their previous knowledge of negotiation teaching to make the simulation effective • The game designers are still getting feedback on the game and keeps updating it • The game can be distributed online or via a disk

This report was prepared by Interactive Ontario's eLearning Committee ONeLearning in 2010 and released January 2011.

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